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FACULTY AND CLASS REPRESENTATIVES

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THE WAR-TIME DUTY OF THE STUDENT CHEMIST

A patriot, according to Webster, is "One who loves his country and zealously supports its authority and interests." Every red-blooded American is a patriot, and many who have not hitherto thought of themselves as such have come to realize that in every one of us patriotism has come to the top above our other interests, commercial and otherwise.

There are two kinds of patriotism which will conform to the Webster definition of a patriot. There is one which comes out in the rush to the colors and the spirit of giving our lives for our country's sake. There is another which is willing to forego, if necessary, the excitement, the adventure, the possible glories of war in order that every shoulder may be put to the wheel where it can do the most good and produce the best results. The latter is the kind of patriotism which the young chemist of today must show in order to enable his country to get the maximum efficiency behind those who go "over the top."

We must be the stokers and engineers of our great ship of war. If the entire crew of the ship should stay on the quarterdeck we would make a sorry showing against an enemy who had placed his men at the engines as well as on the bridge.

There are many industries, directly connected with our armies, which rely upon the chemist to keep them going at their highest efficiency. The munitions plants, aeroplane factories, plants experimenting with and making the deadly gases and flames used so much in the trench warfare of today, all have their call for the chemist who wishes to serve his country in the place, not where the glory comes, but where he can do the most good.

Secretary Baker has urged again and again that the young men in the colleges finish out their courses in order to prepare for the years after this war when young manhood, well trained, is going to be needed even more than it is now. This probably applies more to chemical students than to students in other branches of academic work. At the end of the Junior year the young chemical engineer is capable of doing routine work very well, but it is in his Senior and Graduate years that he gets a taste of that freedom of thought and action which our country needs now, and which it will need more than ever in years to come. A student who has had even a year of research work is infinitely better fitted to carry on real constructive work than one who has had all his thinking done in advance for him. That is a special case of what Secretary Baker meant by students finishing their college courses.

But going back to our definition, we find that a patriot is "One who loves his country and *zealously* supports its authority and interests." In these times when a wave of unrest has passed over every college in the country, when the normal course of things has been more or less confused by decreased attendance, military training, etc., there has been an accompanying demoralization in the work of the student bodies. This is due to the conditions of the times in which we now live. If we are to serve our country *zealously,* is it not our plain duty, not so much to our aspirations to good standing in our classes, but to our country, which we must serve with the best of our ability, to settle down and prepare ourselves for the time when Uncle Sam gives us our opportunity to help "make the world safe for Democracy"?

Let us, then, as chemists and future chemists, put our shoulders to our wheel of the great machine of war so that it may turn in harmony with the other wheels which are rolling toward Berlin.

In December return postal cards were sent to all our alumni in order to prepare the alumni directory for the spring issue of the CHEMIST, and also to give us a complete mailing list. We are anxious to get as complete a list of alumni as we can, and hope that these cards will be returned as promptly as possible.

DEPARTMENTAL NOTES

Dr. Venable has been appointed to serve on the advisory board of chemists for the Bureau of Mines, together with five more of the most prominent chemists of the country: Prof. H. P. Talbot of M. I. T., E. C. Franklin of Leland Stanford, Dr. William H. Nichols of the General Electric Company, William Hoskins of Chicago, and Dr. Charles L. Parsons, Chief Chemist of the Bureau of Mines. This board will discuss and advise upon gas warfare research, the materials especially needed for munitions, and the recently enacted law for the regulation of explosives.

Dr. Wheeler has been appointed by the American Chemical Society as representative in North Carolina to urge gas manufacturers to strip their gas of the toluol so indispensable in the manufacture of high explosives.

The college year opened very auspiciously for the Chemistry Department, forty-nine men registering for the course in Chemical Engineering. Of these, three were graduate students, seven Seniors, eleven Juniors, twelve Sophomores, and sixteen Freshmen.

At the time of writing one of the graduates has left for the army, and three others, one graduate and two Seniors, will probably leave after mid-year exams. These, with the number who may be drafted, will probably bring the number down to about forty.

As Dr. Mack of Johns Hopkins University, the one new man on the staff of the Department, was drafted, the work of assistantships fell very heavily on the shoulders of the Graduates and Seniors, there being more student assistants than ever before.

Thirty-nine of the forty-nine men who registered for the course are taking the military training which the University offers this year, and the laboratory has assumed the appearance of a military chemical headquarters.

It is with the greatest regret that the Department sees four of its most popular and energetic members leave for service in the Army and Navy. N. A. (Sodium) Reasoner left college in November to join the Aviation Corps. Rimmer and Sawyer have enlisted in the Naval Reserves and expect to be called after mid-year exams. The loss of these men will be quite a blow to the assistants' staff of the Department, Rimmer being assistant in Organic and Sawyer in General Chemistry. Our best wishes go with them wherever they may be, and we are sure that they will show some one that men from Carolina are among the best.

JOURNAL CLUB NOTES

Due to many distracting influences there have been only two meetings of the Journal Club this fall. Both were devoted to the discussion of the nitric acid program of the Government.

At the first meeting the program consisted of discussions of "The Arc Process" by B. L. Meredith, "The Haber Process" by L. G. Marsh, and "The Cyanamid Process" by J. W. Scott.

At the second meeting, termed a "Symposium on Nitrogen," C. H. Herty, Jr., discoursed on "By-Product Ammonia," I. V. Giles on "Nitric Acid from Ammonia," and E. P. Wood on "The Nitrogen Situation."

Being impressed with the vital importance of the Journal Club to the students, it has been decided to return to the former custom of meeting every two weeks. Journals are scarce, but we still have our American Chemical Society Journals and the work for the rest of the year will probably be taken from these.

THE LIBRARY

The pride of the Department, our Chemical Library, is being steadily rounded out. Recently several sets on deposit have been

replaced by gifts. Many missing numbers have been acquired by gift or purchase, completing valuable sets.

To William R. Kenan we wish to express our thanks for the presentation of: Journal of the American Chemical Society, vols. 15 to date; Chemical Abstracts, vols. 1 to 10; Journal of Industrial and Engineering Chemistry, vols. 1 to date; Journal of Analytical and Applied Chemistry, vols. 1 to 7. And to Dr. F. P. Venable for: Zeitschrift für Anorganische Chemistry, vols. 1 to 36; Chemioches Technisches Jahrbuch, vols. 4 to 18 (1881-1896). Also to Dr. Lash Miller of the University of Toronto for early numbers of Journal of the Chemical Society, for many parts of the American Chemist, and for the only missing number of Electrochemical Industry.

Vols. 11-36 of Berichte, which were on deposit, have recently been purchased, thereby completing the set. A purchase is pending on vols. 21-102 (1868-1912) of Journal of the Chemical Society of London.

In the April, 1915, number of THE CAROLINA CHEMIST a list of journals in the library was published. Of those, the following only are on deposit:

	Vols.	*Years.*
American Chemical Journal	1 - 50	1879-1914
Annales de Chimie et de Physique (1)	1 - 96	1789-1815
(2)	1 - 75	1816-1840
(3)	1 - 69	1841-1863
(4)	1 - 30	1864-1873
(5)	1 - 30	1874-1883
(6)	1 - 30	1884-1893
(7)	1 - 30	1894-1903
(8)	1 - 30	1904-1913
Annales de Chimie (9)	1 - 2	1914
Archiv der Pharmacie	205-252	1874-1914
Chemiker Zeitung	4 - 38	1880-1914
Chemische Revue uber die Fett-und-Harz Industrie	1 - 21	1894-1914
(Lacks Vol. 7, Nos. 7-12; Vol. 8, No. 2)		
Chemische Zeitschrift	5 - 13	1906-1914
Comptes rendus de l'Academie des Sciences	1-159	1835-1914
Färberzeitung		1889-1914
Gazzetta chimica italiana	1 - 44	1871-1914
Kolloid-Chemische Beihefte	1 - 6	1909-1914
Kolloid Zeitschrift	1 - 15	1906-1914
Monatshefte für Chemie	1 - 35	1880-1914

	Vols.	*Years.*
Moniteur Scientifique ..... (1)	1 - 55	1857-1863
(2)	1 - 7	1864-1870
(3)	1 - 16	1871-1886
(4)	1 - 24	1887-1910
(5)	1 - 4	1911-1914
Recueil des travaux chimiques des Pays-Bas.....	1 - 33	1882-1914
Zeitschrift für anorganische Chemie.....	1 - 88	1892-1914
Zeitschrift für den physicalischen und chemischen Unterricht	1 - 27	1887-1914

These journals are subject to removal by their owners, and we are anxious to see them permanently replaced, since their removal would greatly handicap research. Dr. Bell, as grand custodian of the library, wants to hear from any one who has a scheme for replacing them, either by direct presentation or by making it possible for us to purchase them.

We formerly had on deposit here the work "Handbuch der Anorganische Chemie" (Gmelin-Kraut-Friedheim), 1907-1915. This has been removed by its owner, and it is badly needed. It would be greatly appreciated if some one would make it possible for us to acquire it.

We want our chemical library to be among the best; we want the volumes in it to be permanently there—and the ball has been started rolling to this end.

RESEARCH

Research is being carried on by the Seniors and Graduate Students as follows:

J. W. Scott: Bromination products of Juglon.

N. A. Reasoner and B. L. Meredith: The study of nitronaphthalenes.

L. G. Marsh: Action of Phenylcarbazine on acetyl acetone.

I. V. Giles: Possible Chromates of Zirconium.

I. W. Smithey: Preparation of Zirconium perchlorate.

C. H. Herty, Jr., R. H. Rimmer, and J. P. Sawyer: Study of the nitration of toluene. Analyzing mixed nitro-toluenes. To do this the synthetic mixture of nitro-toluene must be studied.

E. P. Wood: Study of spruce turpentine and its reactions.

ALPHA CHI SIGMA

The Rho Chapter of Alpha Chi Sigma is enjoying a very prosperous year. The Chapter has ten men this year, and when the initiations in the spring are held this number will probably be increased considerably. All the men in the Chapter are taking the military training course, their ranks ranging from "Scodie" Dawson, R. A. P., to Second Lieutenantcies.

The Chapter is undertaking two important tasks this year. The first is the backing of this volume. C. B. Hoke, the man behind its guns last year, did not return this year, and the work is now being carried on entirely by the students in the Department. The second is the backing of the Journal Club meetings in order to make them more helpful and better attended than they have been for the past year. Indications point to a successful outcome for both these undertakings.

The men initiated this fall are:

T. P. Dawson, Conetoe, N. C.
B. L. Meredith, New Bern, N. C.
J. P. Sawyer, Asheville, N. C.
E. P. Wood, Canton, N. C.

THE WELCOME TO '21

On Tuesday night, October 2, at 8 o'clock in the workshop of the Chemistry building, our embryo chemists, sixteen in number, were royally entertained at a "get-together" feed, given by the upper classmen majoring in Chemistry. Among those present were Dr. Venable, Dr. Bell, and Dr. Wheeler of the Faculty.

Dr. Bell, acting as toastmaster, opened the proceedings with a few witty remarks and then presented Dr. Venable, the first speaker of the evening, who urged intimacy and cordiality among all the classes. Next Dr. Wheeler was introduced, and spoke on the dawn of the importance of chemistry, saying that chemistry had "broken into society." Dr. Bell then spoke on many interesting things that he had seen at the meeting of the American Chemical Society in Boston in September. After this the Graduate students and Seniors made short talks of welcome and urged that the Freshmen get acquainted and feel perfectly at home in the Chemistry building.

Last, but not least, the large table in the center of the room was uncovered and a bounteous store of "eats" awaited the onslaught of those present. The taste of the goodies refused to be disguised, for when one tasted "Casein zwischen Brot" he at once recognized a cheese sandwich. Shrapnel proved to be olives, and other names, such as "Äle du Bill Bryan," "dioxy-benzene-hexamethylene-tetramine," and "Nicotine—poison," failed to ward off the attack. Everything was served "a la chimie" in beakers, watch glasses, casseroles, dessicators, etc.

After three hours of very enjoyable entertainment the bunch voted a jolly good time and with "Hark the Sound" and a big "split-Carolina" for '21 the happy assemblage dispersed.

ALUMNI NOTES

The marriage of Mr. C. B. Hoke, '13, and Miss Annie Louise Wills of Gastonia, N. C., on December 27, 1917, has been announced. Hoke is now with the DuPont Powder Company, at Dover, N. J.

T. M. Andrews, '14, and H. L. Crooke, after holding positions in the laboratories of the T. C. I. and R. Company, of Ensley, Ala., are now with the DuPont Powder Company at Wilmington, Del.

F. R. Blaylock is with the DuPont Powder Company at Haskill, N. J.

O. K. Merritt, '17, has just received a first lieutenant's commission from the Oglethorpe Training Camp.

R. W. Sparger, '17, and Hal. B. Ingram, '17, are second lieutenants stationed at Camp Jackson, Columbia, S. C.

Basil Horsefield, '17, who was married this last summer to Miss Chloe Freeland of Burlington, N. C., has been working as chemist at the State laboratories at Raleigh, N. C.

G. Raby Tennent, '17, is with the DuPont Powder Company at Hopewell, Va., as electrician.

R. B. Isley at last information was in the United States Aviation Corps.

V. C. Coulter is a first lieutenant in the gas defensive warfare, United States Army, stationed at Camp Beauregard, Alexandria, Louisiana.

The marriage of C. B. Carter, '13, to Miss Myrtice Greenwood of Chapel Hill has been announced, to take place on January 1st. He is at the Mellon Institute, Pittsburg, Pa.

R. B. ("Bunny") Hall is leaving for France soon as a chemist in the Army.

H. L. Cox, '14, J. A. Struthers, '14, and O. A. Pickett, '16, are all with the Hercules Powder Company at Dover, N. J.

FROM THE FRESHMAN SCRAP BOOK

Gases are made up of small particles called monocles.

An element is any substance that has as its constituents, substances that are not known to men.

Cl, Br, I, and Fl, are called Hallowe'ens.

The substances used in preparing oxygen are Hydrogen, Oxygen, chloride, zinc, iron, and steel.

Oxygen possesses ozone, oxide and Calcium.

An atom is the smallest proportion that we have, or rather deal with, in decimal fractions.

An exothermic reaction is one that goes from the outside to the inside in burning gunpowder. An endothermic reaction is one which starts from the inside because of shock.

The conservation of energy is accomplished by means of electricity and heat.

The quantity of heat is measured in an instrument called an amphimeter.

To measure the intensity of heat dip two wires into some water and turn on the electricity.

Potential energy is (as the book says) bestowed upon a body by virtue.

Active energy=walking up hill.

Potential energy=rolling down hill.

A new solution for the nitrogen situation:

$NaOH + H_2O = NH_3 + aO_2$

Rimmer says that if he meets Herr Nernst in the trenches he's going to kill him twice. Once for being a German and again for writing all that Physical Chemistry.

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